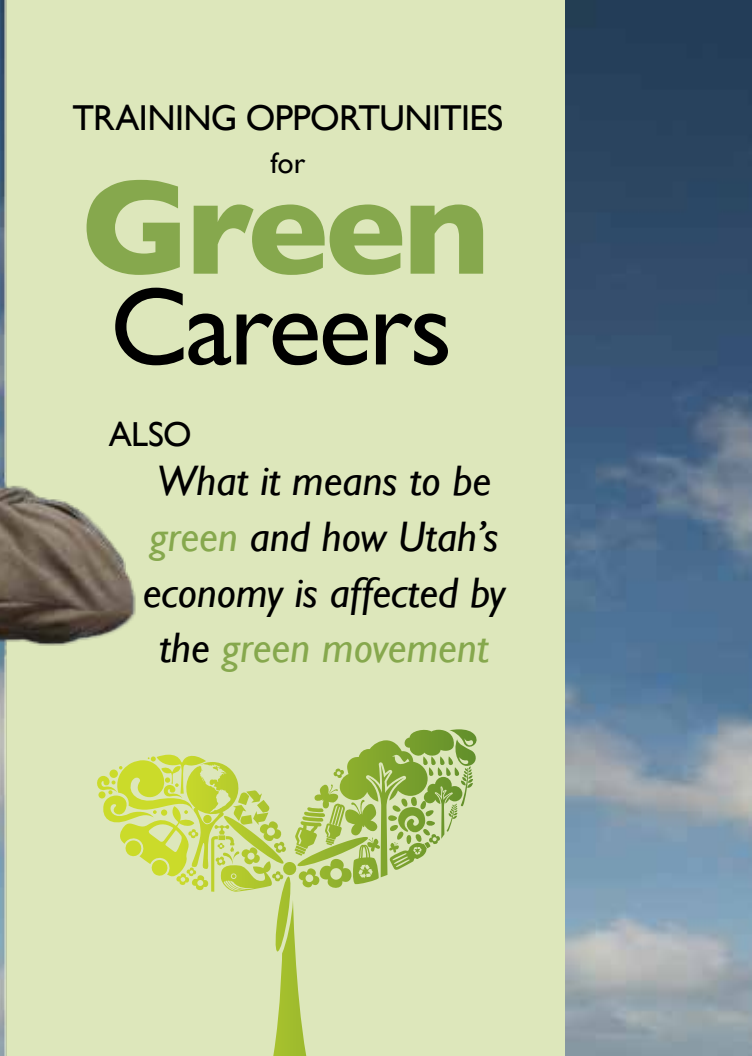




Green Careers

What it means to be green and how Utah's economy is affected by the green movement



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The **Northern Plains & Rocky Mountain Consortium**: researching the green economy



Department of Workforce Services
jobs.utah.gov

This workforce solution was funded by a grant awarded by the U.S. Department of Labor's Employment and Training Administration. The solution was created by the grantee and does not necessarily reflect the official position of the U.S. Department of Labor. The Department of Labor makes no guarantees, warranties, or assurances of any kind, express or implied, with respect to such information, including any information on linked sites and including, but not limited to, accuracy of the information or its completeness, timeliness, usefulness, adequacy, continued availability, or ownership. This solution is copyrighted by the institution that created it. Internal use by an organization and/or personal use by an individual for non-commercial purposes is permissible. All other uses require the prior authorization of the copyright owner.



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Spanish Relay Utah: 1-888-346-3162.



Introduction

“Green careers” are critical to Utah’s continued quality of life and in diversifying Utah’s vibrant economy, and these fields are experiencing dramatic growth. Green careers are broadly defined as careers in clean energy production; energy efficiency; greenhouse gas, waste, and pollution reduction; and conservation of water and other natural resources. The Utah Department of Workforce Services and its State Energy Sector Partnership emphasize four green career sectors:

- 1) **Alternative fuels**
- 2) **Energy management**
- 3) **Green construction**
- 4) **Renewable energy production and transmission.**

Green careers are more common than you might think: mechanical contractors, insulation contractors, electricians, residential energy assessors, plumbers, solar professionals, and vehicle fuel conversion technicians are a few of the careers that make up this growing field.

Green careers typically rely on technologies and practices to conserve energy, improve building operations, and convert renewable energy into usable forms of electricity or heat.

For example, a building energy analyst uses energy modeling software and diagnostic tools to cut building energy waste; while a solar technician determines how much solar energy a building will produce and installs rooftop mounting equipment.



Green careers provide natural career paths for recently laid-off workers and current workers who will benefit from additional training and new skills. Individuals in green careers are more marketable, possess up-to-date training and certifications, and use industry best-practices for providing services and products.

The green economy is poised for continued growth due to continued consumer demand for energy efficiency and clean energy resources. Utah programs, incentives, and continued utility investment in clean energy also play a major role in driving demand for green careers.

Utah Actively Works to Grow Careers in the Green Sector

The Governor's Office of Economic Development provides generous incentives to attract clean energy manufacturing companies to Utah:

- Utah recently launched a state-wide home efficiency retrofit program, known as Utah Home Performance, that requires trained technicians to assess a home's energy performance, and trained contractors to implement the upgrades;
- Rocky Mountain Power and Questar Gas have invested more than \$191 million into energy efficiency programs over the last 3 years (Utah Clean Energy, 2010). These programs require skilled and knowledgeable experts to implement building improvements that save energy and money;
- State government agencies are "leading by example" by instituting proactive building practices (building energy benchmarking) and construction standards (LEED and ENERGY STAR), which require expertise in construction, building operations, and building energy analysis.

State of Utah Green Jobs Survey

Nowadays, the word “green” is commonly used to describe how economic activities positively impact the environment. From internal business practices to the global market place, the green label is being applied to economic inputs and outputs alike. But what does being green actually mean? And how is Utah’s economy affected by the green movement?

In an effort to answer these questions, Utah’s Department of Workforce Services (DWS) partnered with five other states (Montana, Wyoming, South Dakota, Nebraska and Iowa) to form the Rocky Mountain & Northern Plains Green Job Consortium. The consortium was commissioned by the U.S. Department of Labor to research the green economy by geographic area, industry and occupation. To obtain information under those strata, it was determined that each state in the consortium

would conduct a Green Jobs Survey within their respective state. In Utah, DWS sampled over 11,000 establishments across 19 industry sectors.

Prior to launching a survey, however, the consortium needed to construct an appropriate definition for green as it related to jobs and business activities. Was a secretary who put waste paper in a recycle bin a “green secretary”? If a business replaced old light bulbs with more energy efficient ones, was that a “green business”?

It turns out, what we really wanted to measure through a green jobs survey were economic activities that were different because they were green. A secretary’s job is the same whether he/she recycles waste or throws it in



We wanted to measure economic activities that were different because they were green.



the garbage, and a bakery is going to engage in baking goods regardless of what type of light bulbs are in use. Conversely, an electrician who knows how to repair a wind turbine might have a very different set of knowledge, skills and abilities than an electrician who wires residential buildings. Furthermore, a business that operates to manufacture energy efficient light bulbs is specialized in a green area, whereas almost any business that uses light bulbs can upgrade to energy efficient ones. In short, for the purposes of this study, we defined a green job as one where the employee is directly performing green-related activities as part of their core job duties. We defined a green business as a firm that primarily operates to produce a green economic product or service.

The consortium then needed to classify what constituted a green-related activity. We came up with six green economic categories as follows:

RENEWABLE ENERGY AND ALTERNATIVE FUELS

Examples: Manufacturing, construction, research, or delivery of wind, solar, biomass, hydro, geothermal, methane and waste incineration as a fuel source.

ENERGY EFFICIENCY AND CONSERVATION

Examples: Manufacturing, construction or installation of energy efficient products such as weatherization, retrofitting and transportation technology.

POLLUTION, WASTE, AND GREENHOUSE GAS (GHG) MANAGEMENT, PREVENTION, AND REDUCTION

Examples: Reducing greenhouse gas emissions, waste water and other pollutants.

ENVIRONMENTAL CLEANUP AND RESTORATION, AND WASTE CLEAN-UP AND MITIGATION

Examples: Clean-up and disposal of waste, hazardous materials and landfill restoration.

EDUCATION, REGULATION, COMPLIANCE, PUBLIC AWARENESS, TRAINING AND ENERGY TRADING

Examples: Activities that educate on energy efficiency, energy rating system certifications, enforcement of compliance requirements and training on effective use of energy related products and processes.

SUSTAINABLE AGRICULTURE AND NATURAL RESOURCE CONSERVATION

Examples: Low carbon and organic agriculture, land management, water management and conservation, wetlands restoration and environmental conservation.

In the end, the Utah green jobs survey witnessed a statistically valid response rate of 47 percent. Over 400 companies reported having at least one green job and over 500 companies reported being engaged in a primary green activity. Some of the most commonly reported green jobs were environmental engineers, building contractors who specialize in green construction and energy managers.

The most frequently reported green economic categories were Energy Efficiency and Conservation,

Sustainable Agriculture and Natural Resource Conservation and Pollution, Waste, and Greenhouse Gas Management, prevention, and Reduction.

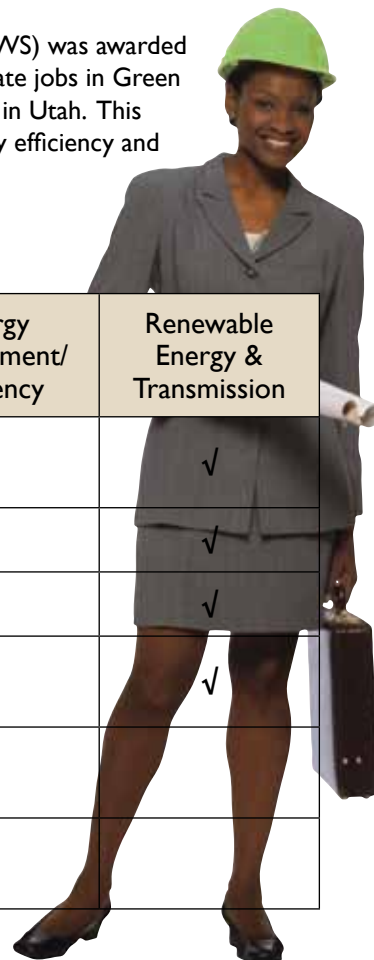
Although the Rocky Mountain & Northern Plains Green Jobs Consortium is just beginning to interpret the major findings of the Green Jobs Survey, the research has proved encouraging. We are gaining a better understanding of what “green” means for Utah, its economy and its workforce, and we look forward to be able to report more information as it is uncovered.



Utah State Energy Sector Partnership—Utah Department of Workforce Services (DWS) was awarded a \$4.6 million State Energy Sector Partnership (SESP) grant to develop the workforce force and create jobs in Green Construction, Alternative Fuels, Energy Management/Efficiency, and Renewable Energy Transmission in Utah. This project will provide training for 1,400 individuals with the skills required to work in emerging energy efficiency and renewable energy industries. Training will be provided through July 31, 2012.

SESP Training Provider Chart

Training Institution	Green Construction	Alternative Fuels	Energy Management/ Efficiency	Renewable Energy & Transmission
Bridgerland Applied Technology College	√	√	√	√
Davis Applied Technology College	√		√	√
Salt Lake Community College	√	√	√	√
Southwest Applied Technology College				√
Utah State University – College of Eastern Utah	√	√	√	
Uintah Basin Applied Technology College	√	√		



Assessment

Energy Academy Trainees will meet with an Energy Career Development Specialist to discuss their individual needs and goals, and create a plan to achieve them.

Every Energy Academy trainee will have access to the WorkKeys® system to assess academic needs, identify occupational skills and competencies, and attain nationally recognized certifications. An initial WorkKeys® assessment will allow the trainee and the Energy Academy to plan for each individual's needs, and will help them become familiar with the process used to obtain national WorkKeys® certifications.

WorkKeys® allows individuals to demonstrate their skill levels to employers in a nationally recognized, verifiable format. Increasing numbers of employers are using WorkKeys® to screen potential employees.



How to Apply for Training Money

To find out if you are eligible for no-cost training in one of the Energy Sectors described in this booklet, go to **jobs.utah.gov** and click on the State Energy Sector Partnership Grant (SESP) link.



STATE CORE ENERGY CURRICULUM

Statewide Energy Management/Efficiency and Renewable Energies

Technical Foundations and Integrated Skill Sets

Energy Essentials

Computer Skills

Applied Math

Safety Regulations

Technical Writing

Essentials

Processing

Energy Essentials

All participants will complete common “core” training in addition to a “specialty” program. This will provide the integrated foundational skills needed to cross over in to any of the specific training areas. This will allow individuals to move in and out of occupations/sectors as the market changes.

OSHA

First Aid + CPR

STATE CORE ENERGY CURRICULUM

Sector

Energy Management/Efficiency & Renewable Energies

Industries

Green Construction

Energy Management/
Efficiency

Renewable Energy &
Transmission

Alternative Fuels

Occupation

Design

Solar
Systems

Energy Management/
Auditing

Solar

CNG/LNG

Hazardous Materials
Handling & Removal

Weatherization

Wind

Hybrid

Retrofit

HVAC systems
installation

Inspection

Geothermal

Natural Gas
Measurement Tech.

Smart Grid

What is green construction?

“Green construction” refers to building design, construction, and retrofitting practices that exceed minimum code standards and incorporate environmentally preferable, energy-efficient practices that often include renewable energy systems (i.e. rooftop solar). The objectives of green construction include: reduced environmental impact of the building’s construction and long-term operation, improved occupant comfort, increased durability of the structure, and reduced energy consumption. Common green construction programs include: ENERGY STAR for New Homes, LEED, and Home Performance with ENERGY STAR.

Factoids

- Clean technology attracted nearly \$12.6 billion in venture capital investment between 2006 and 2009 alone; 80% of all venture capital investment in 2008 went to the clean energy sector. (Pew Charitable Trusts, 2009)
- Globally, renewable energy resources, such as wind and solar energy, receive 12-times less government subsidies than fossil fuels. (Bloomberg, 2010)
- In the Rocky Mountain region, growth in green jobs outpaced overall job growth and growth in green jobs was with the construction and real estate sectors. (Headwaters Economics, 2010)

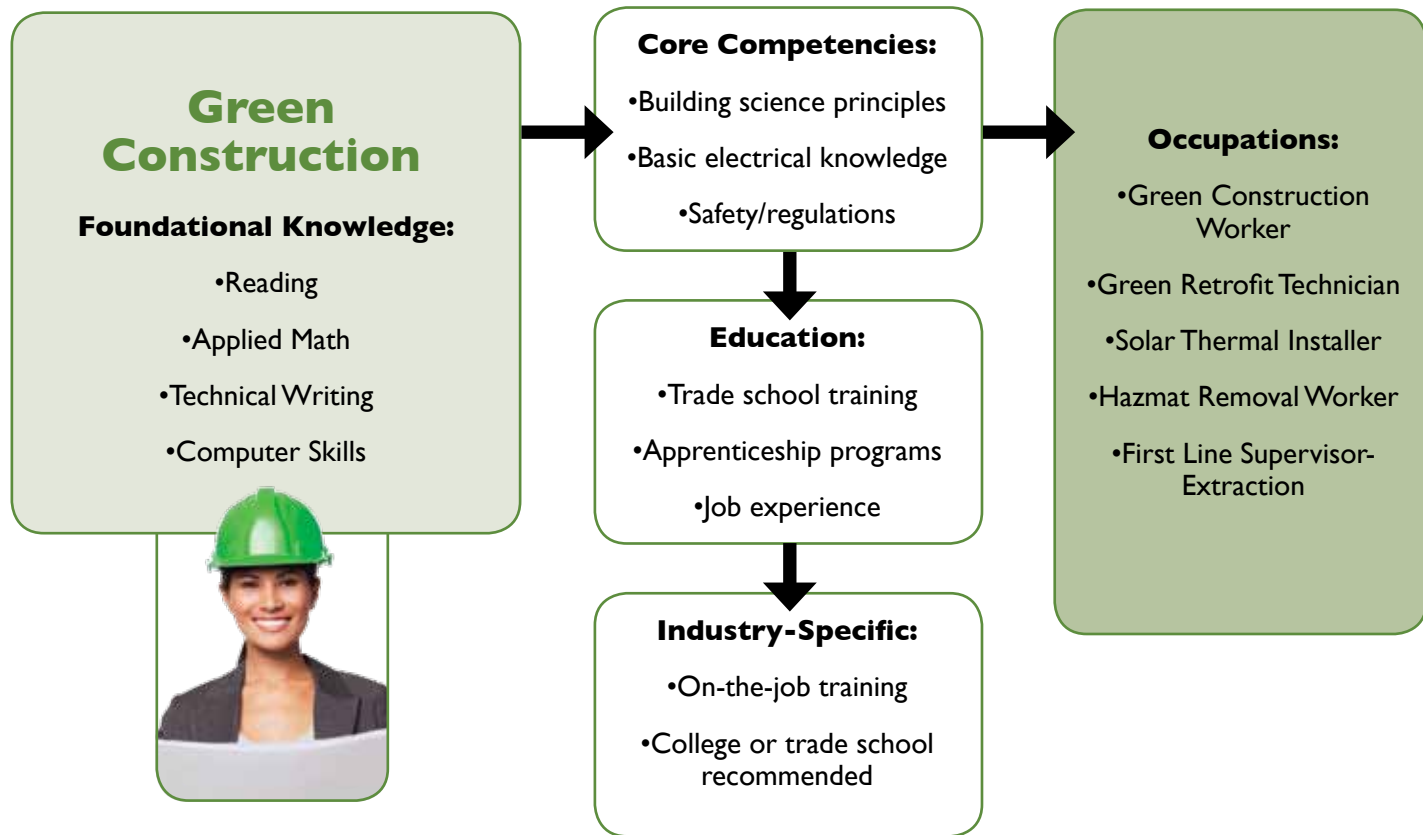
Sources:

Pew Charitable Trusts, The Clean Energy Economy, 2009, url: http://www.pewcenteronthestates.org/uploadedFiles/Clean_Economy_Report_Web.pdf

Bloomberg, Fossil Fuel Subsidies Are 12 Times Support for Renewables, Study Shows, 2010, url: <http://www.bloomberg.com/news/2010-07-29/fossil-fuel-subsidies-are-12-times-support-for-renewables-study-shows.html>

Headwaters Economics, Clean Energy Leadership in the Rockies: Competitive Positioning in the Emerging Green Economy, (2010), url: <http://www.headwaterseconomics.org/greeneconomy/CleanEnergyLeadership.pdf>





SUCCESS STORY

Jared Thomson hit the ground running to expand on his existing plumbing background to become a solar thermal installer. “It is so easy for plumbers to transfer over to solar thermal because the work is very similar... anyone who is a journeyman plumber can do this work. For any company that is doing plumbing it is not hard to do solar as well.”

After working at Titan Mechanical getting his feet wet in the solar thermal field, he began working with a start-up company, Western Solar and looking for more opportunities to utilize his solar thermal skills in the residential and new construction industry. From there, he found the innovative company, DwellTek that specializes in “whole house” efficiency retrofit and construction projects. At DwellTek, Jared installs water heaters and solar thermal panels in new construction and retrofits that are switching to cleaner, more efficient options. Jared states, “I like what I do. It is nice to see home owners be excited about being greener and saving money.”



AT-A-GLANCE

Career Profile:
Green Construction

Certification required:

Journeyman Licensed Plumber. On-the-job training covering solar plumbing.

Average wage for this occupation: Journeyman Plumber is the high \$20 per hour range (varies).

Key challenges in your field: Educating the home owner about the savings after the initial cost of the system.



What is energy management/efficiency?

“Energy management” is a multi-million dollar industry based on reducing energy consumption in our homes and commercial buildings – primarily through increasing energy efficiency while providing the same (or better) comfort and occupant experience. Common energy management techniques include building energy use tracking, implementing high efficiency technologies and processes (i.e. high efficiency lighting, daylighting, and advanced building controls), and recommissioning building energy systems.

Factoids

- Utah is ranked 12th in the U.S. for leadership in energy efficiency according to the American Council for an Energy Efficient Economy’s October 2010 State Scorecard – up 11 places from 23rd in 2009! (ACEEE, 2010)
- From 2007 to 2009, Rocky Mountain Power and Questar Gas have together invested more than \$191 million into energy efficiency rebate programs. Through these programs, skilled and knowledgeable experts provide technical assistance to businesses and homeowners, and implement building efficiency improvements. (Utah Clean Energy, 2010)

Sources:

American Council for an Energy-Efficient Economy, The 2010 State Energy Efficiency Scorecard, 2010, url: <http://www.aceee.org/sector/state-policy/scorecard>

Utah Clean Energy, citing data from Rocky Mountain Power and Questar Gas DSM Advisory Group reports, (2010)



SUCCESS STORY

In 2006, Doug Anderson became the Energy Manager/Programmer for Davis School District. The Energy Management field is very technology driven and fast-paced, and is seeing growth almost every year. After completing a technical degree in Industrial Maintenance from the Ogden Weber ATC, Doug completed training and received a degree in Computer Science from Weber State University. Most recently, he received CEM (Certified Energy Manager) certification from the Association of Energy Engineers.

With this training, Doug is able to control and coordinate multiple buildings' energy systems to save energy and money, and keep building occupants comfortable. This position involves controlling almost everything that uses energy in school buildings, including: lighting systems, chillers, boilers, pumps, geo-thermal systems, and air handlers. In addition, Doug maintains all of the energy and lighting system

databases, monitors energy bills and makes adjustments to the digital control programs to save energy and money. As Energy Manager, Doug also helps conduct building control upgrades and conducts building re-commissioning projects to identify energy problems, and is always looking for new technology and ideas to save the district energy.

Like others in his field, Doug enjoys the challenge of programming a school building to operate efficiently while still maintaining comfort levels for students and faculty. "I knew 14 years ago that energy would be a concern for many years to come. I am very glad that I pursued this career since this is a market that has a lot of demand and is not expected to slow down for many years."



Energy Management/ Efficiency

Foundational Knowledge:

- Reading
- Applied Math
- Technical Writing
- Computer Skills



Core Competencies:

- Evaluate energy use patterns for residential housing & commercial buildings
- Know regulations and policies affecting measure selection
- Select and operate various energy analysis measuring and monitoring devices
- Write reports providing results/recommendations for energy cost savings

Education:

- HS diploma or GED
- AS or AAS Degree
- Residential Energy Services Network (RESNET) Certified Energy Rate or Building Performance Institute (BPI) credential recommended

Core Competencies:

- Perform energy assessments/audits
- Develop energy conservation measures
- Perform energy simulation modeling
- Perform supply side & demand side energy consulting
- Conduct technology feasibility studies

Education:

- Bachelor's degree in related engineering field
- Master's in Energy Engineering for career advancement
- Certified Energy Manager (CEM) credential recommended

Occupations:

- Energy Management
- Energy Efficiency Consultant
- Energy Auditor

Occupations:

- Energy Engineer
- Energy Efficiency Consultant
- Energy Management Engineer
- Energy Manager (Engineer)
- CEM (Certified Energy Manager) Engineer



AT-A-GLANCE

Career Profile:
Energy Manager

Certification required:
CEM or equivalent.

Average wage for this career:

\$50,000-\$100,000 per year.

Primary clients and customers:
Students, faculty and tax payers.

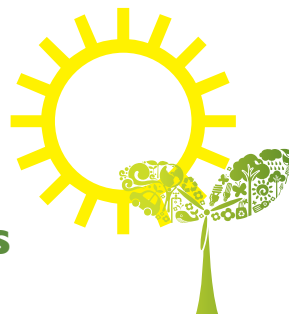
Key challenges in your field: Keeping up with technology and all that is changing with the energy field.

What is energy transmission?

“Energy transmission” refers to the power lines that move electricity from points of large scale generation to population centers where the energy is used. Long-distance and high capacity power lines are called “transmission” lines, and lower capacity power lines that distribute electricity throughout communities and neighborhoods are called “distribution” lines.

What is renewable energy?

“Renewable energy” is energy derived from natural resources that are continually replenished (or renewed) on an unlimited basis, and doesn’t require mining and extraction from the earth. Renewable energy resources include: biomass, hydro, geothermal, solar, and wind. Renewable energy can be produced on both large and small scales. For example, large utility-scale wind farms can deliver electricity over hundreds of miles and rooftop solar PV systems generate electricity to be used on-site.



Factoids

Wind Energy

- Between 1998 and 2007 jobs in the wind energy field increased 23.5 percent nationally. (Pew Charitable Trusts, 2009)

Solar Energy

- Nationally, jobs in solar energy generation account for 62.5 percent of all energy generation jobs in the clean energy sector. (Pew Charitable Trusts, 2009)

During 2009 and 2010 Utah became a leader in solar energy; the Salt Lake Community College was awarded a grant from the U.S. Department of Energy to become a regional training center; and Salt Lake County announced the installation of the country’s largest rooftop solar PV system (Deseret News, 2009; KSL News, 2010).

Sources:

Pew Charitable Trusts, The Clean Energy Economy, 2009, url: http://www.pewcenteronthestates.org/uploadedFiles/Clean_Economy_Report_Web.pdf

KSL News, Salt Palace to house largest solar-power installation in country, 2010, url: <http://www.ksl.com/?nid=148&sid=12246453>

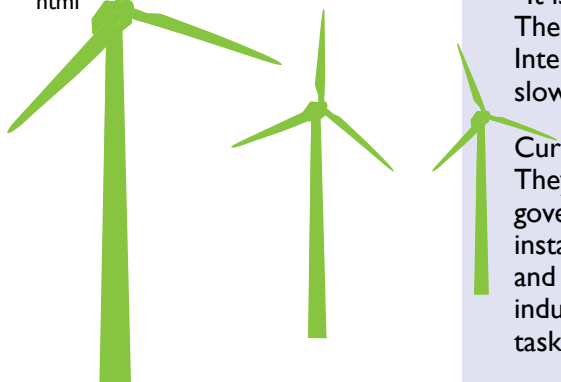
Deseret News, SLCC receives solar-energy grant, 2010, url: <http://www.deseretnews.com/article/705341542/SLCC-receives-solar-energy-grant.html>

SUCCESS STORY

Mark Richards was no stranger to the world of clean energy when he began as the Business and Development Director at Intermountain Wind and Solar in 2009. Prior to joining Intermountain Wind and Solar, Mark earned his clean energy stripes performing energy-saving retrofits in large commercial buildings for an electrical contractor all across Utah. After several years helping consumers reduce energy consumption, Mark started envisioning a career that focused on energy generation through renewable resources such as wind and solar. Enter Intermountain Wind and Solar, a Utah-based company specializing in the installation of residential and commercial wind and solar projects.

It has been a busy year for Mark since joining the company, he states, "It is very demanding because the industry seems to be in hyper-mode. There is a lot to do, the phone doesn't stop ringing." In the past year alone, Intermountain Wind and Solar has doubled in size and it doesn't look to be slowing down anytime soon.

Currently, Intermountain Wind and Solar's customer base is very broad. They install wind and solar energy on residential and commercial buildings, government buildings and higher learning institutions. Mark notes that installation is just one piece of the job. The company works on design, analysis and business development as well as installations. Mark states, "Right now, the industry is so thirsty, those who are in it are asked to do a lot of different tasks and fill a lot of roles."



Renewable Energy & Transmission

Foundational Knowledge:

- Reading
- Applied Math
- Technical Writing
- Computer Skills



Core Competencies:

- Reading and following blueprints or engineering specifications for installation and repair
- Detecting errors in equipment based on mechanical, electrical, hydraulic, and pneumatic qualities
- Coordinating on-site installations
- Providing training and technical support to customers
- Preparing technical documentation and instruction materials
- Troubleshooting and repairing building-automation-system field cabinets, including communications equipment, printed circuit boards, power supplies, electrical/electronic controls, sensors, and transducers

Education:

- HS Diploma or GED
- Associate's degree recommended

Occupations:

- Automation Technician
- Instrument Technician
- Instrumentation Technician
- Control Technician
- Process Control Technician
- I&E Technician
- Measurement Technician



AT-A-GLANCE

Career Profile:
Renewable Energy
Generation

Certification required:

NABCEP certification, National Electrical Code training. Field training is critical. Trade magazines are also a great resource of education.

Primary clients and

customers: Residential, private commercial, government, and higher education.

Key challenges in your

field: Helping people understand the installation system and how it may apply to them. The majority of what we do is education prior to the actual installation of a system.

What are alternative fuels?

“Alternative fuels” are used as alternatives to gasoline in vehicles and generally result in lower harmful emissions and pollutants and are often produced domestically. As identified by the Energy Policy Act of 1992, alternative fuels include: biodiesel, electricity, ethanol, hydrogen, methanol, natural gas, and propane.

SUCCESS STORY

When Guy Simkins went to school to become a mechanic, he expected to be specializing in the usual stuff: carburetors, brake pads, and so forth. However, when he began working at the Salt Lake City International Airport, he soon realized the significant job-growth potential in natural gas vehicles. “At the Salt Lake City Airport, any vehicle that was $\frac{3}{4}$ ton or below had to be converted to natural gas because as an international airport, they were very conscious about clean air,” states Guy.

Now, seven years later, he runs a successful business doing traditional mechanical work and specializing in natural gas vehicles. Guy notes that the investment into a natural gas system is valuable for those cars that are on the road a great deal, such as one of his client’s in St. George that runs a shuttle system. That natural gas fleet gets its repairs and natural gas conversions from Guy’s Automaster. “There are two big reasons for natural gas, the first is cleaner air, and the second is the cost of fuel. Natural gas is less expensive; you can spend as little as \$1.50 per gallon.”

Having the ability to expand his business to the cleaner option of natural gas has been good for business and looks to continue to grow. Guy says, “The natural gas corridor is affecting my business. The more the word gets out that there are places to fuel, more people are investing in natural gas vehicles.”



Alternative Fuels

Foundational Knowledge:

- Reading
- Applied Math
- Technical Writing
- Computer Skills



Core Competencies:

- Basic understanding of automotive mechanics and repairs
- Understanding of alternatives:
 - Fuels*
 - Emission Control*
 - Electronic Ignition*
 - Diagnostics Techniques*
- Safety procedures specific to gaseous fuels
- Policies and regulations pertaining to installation operation and inspection of CNG cylinders

Education:

- HS Diploma or GED preferred
- CNG Fuel System Inspector Certificate
- Automotive Service Excellence (ASE) Certification
- AAS Automotive Tech. preferred

Occupations:

- Gas Measurement Technician
- CNG Tank Inspector
- ASE Certified Alternative Fuel Technician



AT-A-GLANCE

Career Profile:
CNG Vehicle Conversion



Certification required:

IMPCO, Mogas, EPA
Certified Installation
Kits must be installed by
certified companies.

Average wage for this occupation:

\$26 per hour as a master
mechanic, \$15 per hour
entry level.

Primary clients and customers:

Individual
vehicle owners and natural
gas fleets.

Key challenges in your field:

Understanding about
the benefits of natural gas.



BATC=Bridgerland Applied Technology College
 DATC=Davis Applied Technology College
 SLCC=Salt Lake Community College
 SWATC=Southwest Applied Technology College
 UBATC=Uintah Basin Applied Technology College
 USU-CEU=Utah State Univ.-College of Eastern Utah

Labor Market Information

Job Title	SOC	Curriculum	Training Provider(s)	Hourly Entry Level Wage	Hourly Median Wage	Average Annual Openings (2008-2018)
Green Construction Workers (Laborer)	47-2061	Green Construction	SLCC BATC USU-CEU DATC SWATC UBATC	\$ 9.45	\$ 12.55	610
Solar Sales Representatives/ Estimator	41-4011	Green Construction	Industry training	20.54	31.48	220
Solar Thermal Installer	49-9021	Green Construction	SLCC BATC DATC SWATC	14.41	18.56	160
Solar Photo-Voltaic Installer	49-2094	Green Construction	SLCC BATC DATC SWATC	16.15	24.63	40
Hazardous Materials Removal Worker	47-4041	Green Construction	SLCC BATC DATC UBATC	13.38	20.83	20
Hazardous Materials First Responder						
Hazardous Materials Handler						
Hazardous Materials Technician	17-3029	Green Construction	SLCC BATC DATC	17.12	28.92	N/A
First Line Supervisor-Extraction	47-1011	Green Construction	SLCC BATC	19.93	26.10	440
Electrician	47-2111	Green Construction, Renewable Energy Transmission	SLCC BATC DATC SWATC UBATC USU-CEU	15.24	20.02	410
Plumber, Pipefitter, Steamfitter	47-2152	Green Construction	SLCC BATC DATC SWATC UBATC	13.90	20.79	320
Cement Mason, Concrete Finisher	47-2051	Green Construction	This class taught in general construction at all locations	13.00	16.56	130

Job Title	SOC	Curriculum	Training Provider(s)	Hourly Entry Level Wage	Hourly Median Wage	Average Annual Openings (2008-2018)
Drywall & Ceiling Tile Installer	47-2081	Green Construction	This class taught in general construction at all locations	11.28	17.02	120
Occupational Health & Safety Technician	29-9012	Green Construction	SLCC DATC UBATC USU-CEU	17.39	22.71	10
Welder	51-4122	Green Construction	SLCC BATC DATC SWATC UBATC USU-CEU	10.94	14.21	10
Roofer	47-2181	Green Construction	This class taught in general construction at all locations	10.98	16.39	60
Industrial Production Manager	11-3051	Alternative Fuels	None	27.85	38.60	50
Electro-Mechanical Technician	17-3024	Alternative Fuels	SLCC BATC DATC USU-CEU	18.11	22.61	N/A
Natural Gas Measurement Technician	17-3023	Alternative Fuels	SLCC BATC USU-CEU DATC UBATC	15.56	23.39	40
Natural Gas Regulation Technician						
CNG Inspector	53-6051	Alternative Fuels	SLCC BATC USU-CEU DATC UBATC	16.99	23.17	10
Hybrid Inspector						
Emissions Testing & Repair Technician						
Lube Technician	53-6031	Alternative Fuels	SLCC BATC DATC SWATC UBATC USU-CEU	7.87	9.71	50
Maintenance/Repair Technician	49-3023	Alternative Fuels	SLCC BATC USU-CEU DATC UBATC	11.07	17.79	300
Retrofitting & Conversion Technician						
CNG Installer						
CNG Maintenance Technician						
Hybrid Maintenance Technician						
Automotive Service Engineer						

Job Title	SOC	Curriculum	Training Provider(s)	Hourly Entry Level Wage	Hourly Median Wage	Average Annual Openings (2008-2018)
Installation Helper	49-9098	Alternative Fuels	SLCC BATC DATC UBATC USU-CEU	8.12	10.68	90
Weatherization Installers & Technicians	47-4099	Energy Management	SLCC BATC DATC SWATC USU-CEU	N/A	N/A	N/A
Installation Helper/Seal,Duct Tester	49-9098	Energy Management	SLCC BATC DATC SWATC USU-CEU	8.12	10.68	90
Weatherization Operations Manager	11-9021	Energy Management	SLCC BATC DATC USU-CEU	23.47	35.37	N/A
Energy Auditors	13-1199	Energy Management	SLCC BATC USU-CEU DATC SWATC	N/A	N/A	N/A
Energy Engineers	17-2199	Energy Management	Higher education program	N/A	N/A	N/A
Energy Assessment Technician	17-3029	Energy Management	SLCC BATC USU-CEU DATC SWATC	17.12	28.92	N/A
Commercial & Industrial Field Auditor	19-2041	Energy Management	SLCC BATC DATC SWATC	21.56	29.02	40
Heating,Air Conditioning, Refrigeration Mechanic/Installer	49-9021	Energy Management	SLCC BATC USU-CEU DATC SWATC	14.41	18.56	160
Insulation Workers, Floor, Ceiling, and Wall	47-2131	Energy Management	SLCC BATC DATC SWATC USU-CEU	11.65	13.65	30
Surveyor	17-1022	Renewable Energy Transmission	SLCC	17.15	27.03	40
Solar Energy Systems Service Technicians	49-9021	Renewable Energy Transmission	SLCC BATC DATC SWATC	14.41	18.56	160
Solar Site Assessment Specialist						
Solar Energy Systems Installer						



Job Title	SOC	Curriculum	Training Provider(s)	Hourly Entry Level Wage	Hourly Median Wage	Average Annual Openings (2008-2018)
Solar Energy Systems Manager	11-9199	Renewable Energy Transmission	SLCC BATC	N/A	N/A	N/A
Wind Turbine Service Technicians or "Windsmith"	49-9099	Renewable Energy Transmission	BATC SWATC	N/A	N/A	N/A
Wind Energy Project Managers	11-9199	Renewable Energy Transmission	Higher education program	N/A	N/A	N/A
Wind Energy Operations Managers	11-9199	Renewable Energy Transmission	Higher education program	N/A	N/A	N/A
Wind Energy Engineers	17-2199	Renewable Energy Transmission	Higher education program	N/A	N/A	N/A
Civil Engineering Technician	17-3022	Renewable Energy Transmission	Higher education program	15.56	20.67	30
Electrical Engineering Technician	17-3024	Renewable Energy Transmission	SLCC BATC DATC	18.11	22.61	N/A
Industrial Engineering Technician	17-3026	Renewable Energy Transmission	SLCC BATC DATC	17.42	27.73	20
Mechanical Engineering Technician	17-3027	Renewable Energy Transmission	SLCC BATC DATC	16.31	22.23	10
Industrial Machinery Mechanic	49-9041	Renewable Energy Transmission	SLCC BATC DATC	14.40	21.27	130
Electrical Power Line Installer/Repairer	49-9051	Renewable Energy Transmission	Industry training	19.48	28.70	70
Control & Valve Installer/Repairer	49-9012	Renewable Energy Transmission	Industry training	18.64	24.63	20





Department of Workforce Services



Uintah Basin
Applied Technology College



Bridgerland Applied
Technology College (BATC)
Student Services
1301 North 600 West
Logan, Utah 84321
(435) 750-3250
www.batc.edu

Davis Applied Technology
College (DATC)
Student Services
550 East 300 South
Kaysville, Utah 84037
801-593-2500
www.datc.edu

Salt Lake Community College
(SLCC)
Division of Continuing
Education
Course & Program info –
(801) 957-5303
www.slcc.edu/continuinged

Southwest Applied Technology
College (SWATC)
Student Services
510 West 800 South
Cedar City, Utah 84720
435-586-2899
www.swatc.edu

Uintah Basin Applied
Technology (UBATC)
Career Center
450 North 2000 West
Vernal, Utah 84078
(435) 725-7103
www.ubatc.edu

Utah State University –
College of Eastern (USU-CEU)
Carbon, Emery and Grand
Counties Utah Workforce
Education Division
451 East 400 North
Price, Utah 84501
(435) 613-5440 (800) 230-
8580 Ext. 5440
www.ceu.edu

Utah State University –
College of Eastern Utah
(USU-CEU)
San Juan County Workforce
Education Division
238 North 100 East
Blanding, Utah 84511
(435) 678-3437
www.sjc.ceu.edu